

mask,

said step of introducing said impurity element being conducted prior to said step of introducing N atoms into said gate oxide film,

wherein said step of introducing N atoms into said gate oxide film comprises a thermal annealing process of said gate oxide film conducted in an atmosphere containing NO,

wherein activation of said impurity element is conducted simultaneously to said thermal annealing process,

said thermal annealing process being conducted at a temperature of about 800°C.

10. (Five Times Amended) A method of fabricating a semiconductor device, comprising the steps of:

forming a gate oxide film on a substrate by a thermal oxide film;

forming a gate electrode pattern on said gate oxide film such that said gate electrode pattern is in direct contact with said gate oxide film;

forming diffusion regions in said substrate at both lateral sides of said gate electrode pattern by introducing impurity element into said substrate through said gate oxide film while using said gate electrode pattern as a mask; and

introducing N atoms, after said step of introducing said impurity element, into said gate oxide film while using said gate electrode pattern as a mask,

wherein said step of introducing N atoms into said gate oxide film includes an ion implantation process of N ions.